

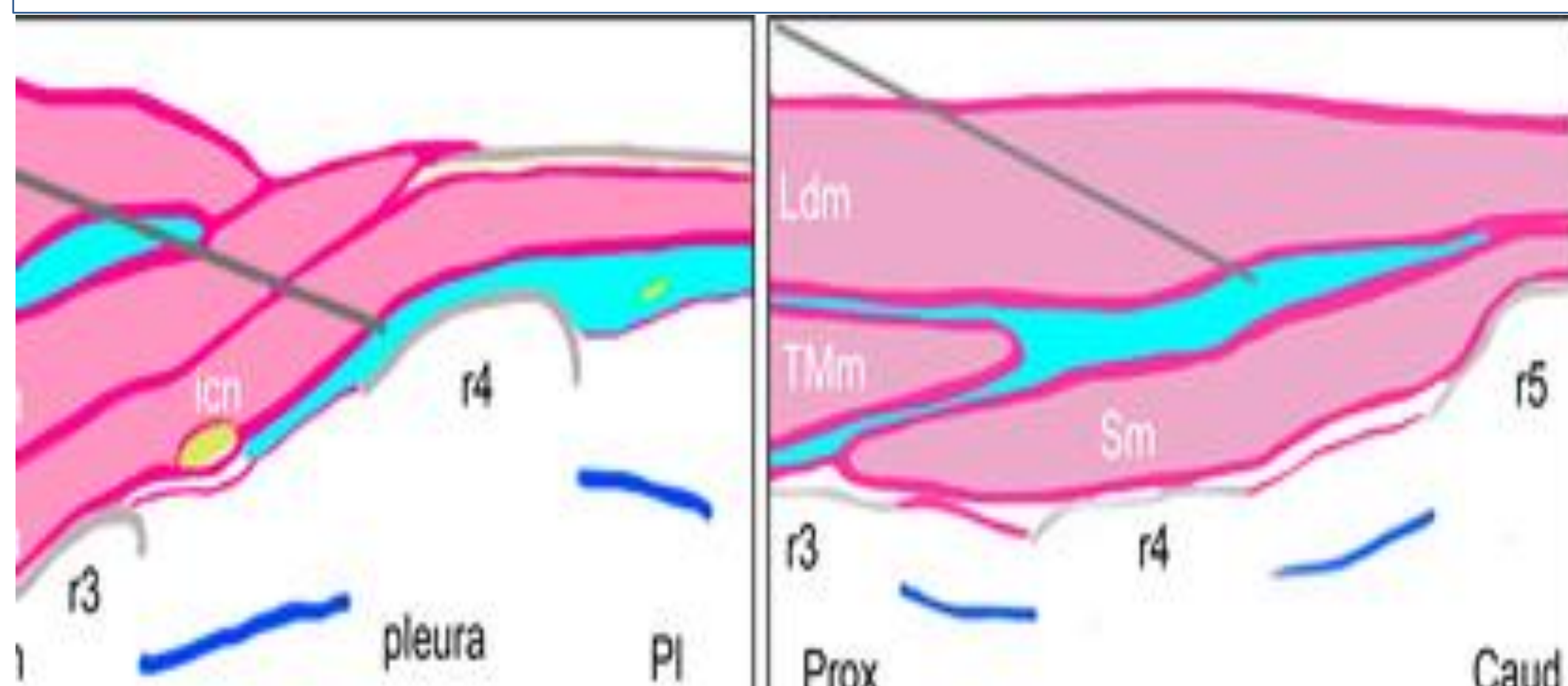
Serratus Anterior Plane Block versus Thoracic Paravertebral Block for Mastectomy Analgesia

Ghada Bashandy, MD¹; John Shaker, MD.¹

¹National Cancer Institute-Cairo University, Egypt.

Background

Thoracic paravertebral block (TPVB) was established as a modality for reducing postoperative pain following modified radical mastectomy (MRM)¹. Moreover TPVB is sometimes considered an attractive alternative to general anesthesia (GA)². However, TPVB has a failure rate of 6–12%³. This study was designed to compare the newly introduced serratus anterior plane block (SAPB) and TPVB for perioperative analgesia in breast cancer surgery^{4,5}.



Local Anesthetic deposition above and below the serratus anterior muscle⁴.

Methods and Materials

A single blind, controlled randomized, interventional study in National Cancer Institute, Cairo University hospitals. Fifty female patients aged 18-80 years with American society of Anesthesiologists (ASA) physical status I – II were enrolled in the study. Patients were scheduled for unilateral Modified Radical Mastectomy with or without axillary lymph nodes dissection. They all had general anesthesia with standard protocol, 25 patients had preoperative U/S guided single injection TPVB (0.4ml/kg of 0.25% Bupivacaine) and the other 25 patients received preoperative single injection U/S guided SAPB (0.4 ml/kg of 0.25% Bupivacaine). Duration of performing both techniques as well as onset of parasthesia of anterior chest wall was recorded. Opioid consumption intra & postoperatively were calculated with assessment of pain score immediately postoperatively & after 24 hours. Primary outcome measure was Visual analogue scale (VAS) in the 1st 24 hours postoperatively. Secondary outcome measures opioid consumption (intraoperative & first day postoperative) and postoperative nausea & vomiting.

Results

SAPB is comparable to TPVB for postoperative pain relief following modified Radical Mastectomy. Even though SAPB was much easier to perform. Seventy six % patients enrolled in TPVB group experienced no or minimal postoperative pain, <30 mm on VAS scale (with no need for opioids in the first 24 hours). On the other hand, 84% enrolled in SAPB group experienced no or minimal postoperative pain, <30 mm on VAS scale (with no need for opioids in the first 24 hours), p value=0.725. Two patients in TPVB group versus three patients in SAPB group experienced pain >50 VAS scale, to whom morphine (0.1mg/kg) was given, p value=0.325. Just one patient experienced postoperative nausea & vomiting in SAPB group. On day 1 postoperative, mild to moderate pain (VAS <50mm) was experienced in 11 versus 14 patients in TPVB group and SAPB group respectively for which Ketorolac 30mg iv was given (p = 0.572).



Conclusions

SAPB offered excellent pain relief for patients undergoing non-reconstructive breast surgery. Narcotic rescue was minimal with high patient and surgeon satisfaction. Furthermore; SAPB was easier to perform & carried less incidence of side effects.

Contact

Ghada Bashandy
National Cancer Institute, Cairo University, Egypt
Email: Ghada.nabih@nci.cu.edu.eg
Website: <http://scholar.cu.edu.eg/?q=gmn/>
Phone: +14079858526

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